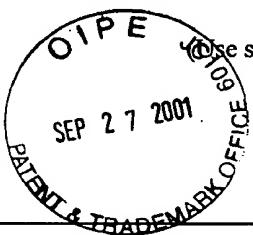


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Applicants: **Bastiaan Driehuys et al.**Filing Date **March 12, 2001**

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1616

U. S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
<i>A</i>	1.	3,623,474	11/30/71	Hellman et al.	128	2R	
<i>A</i>	2.	4,312,860	01/26/82	Clements	424	199	
<i>A</i>	3.	4,466,442	08/21/84	Hilmann et al.	128	653	
<i>A</i>	4.	4,586,511	05/06/86	Clark, Jr.	128	653	
<i>A</i>	5.	4,775,522	10/04/88	Clark, Jr.	424	9	
<i>A</i>	6.	4,793,357	12/27/88	Lindstrom	128	654	
<i>B</i>	7.	4,826,821	05/02/89	Clements	514	78	
<i>A</i>	8.	4,996,041	02/26/91	Arai et al.	424	9	
<i>A</i>	9.	5,046,498	09/10/91	Fishman	128	653	
<i>A</i>	10.	5,186,924	02/16/93	Fishman	424	9	
<i>A</i>	11.	5,190,744	03/02/93	Rocklage et al.	424	9	
<i>A</i>	12.	5,309,903	05/10/94	Long	128	203.12	
<i>A</i>	13.	5,322,511	06/21/94	Armbruster et al.	604	155	
<i>A</i>	14.	5,352,979	10/04/94	Conturo	324	307	
<i>A</i>	15.	5,509,412	04/23/96	Bahn	128	653.2	
<i>A</i>	16.	5,522,390	06/04/96	Tuithof et al.	128	653.2	
<i>A</i>	17.	5,545,396	08/13/96	Albert et al.	424	93	
<i>A</i>	18.	5,617,859	04/08/97	Souza et al.	128	653.2	
<i>A</i>	19.	5,617,860	04/08/97	Chupp et al.	128	653.4	
<i>A</i>	20.	5,626,137	05/06/97	Dumoulin et al.	128	653.2	
<i>A</i>	21.	5,642,625	07/01/97	Cates, Jr. et al.	62	55.5	
<i>A</i>	22.	5,773,024	06/30/98	Unger et al.	424	450	
<i>A</i>	23.	5,785,953	07/28/98	Albert et al.	424	93	
<i>A</i>	24.	5,789,921	08/04/98	Albert et al.	324	300	
<i>A</i>	25.	5,924,987	07/20/99	Meaney et al.	600	420	
<i>A</i>	26.	5,934,103	08/10/99	Ryan et al.	62	637	
<i>A</i>	27.	5,936,404	08/10/99	Ladebeck et al.	324	300	

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Group

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28.	6,023,162	02/08/00	Johnson	324	300	
29.	6,033,645	03/07/00	Unger et al.	424	9.5	
30.	6,033,645	03/07/00	Unger et al.	424	9.5	
31.	6,042,809	03/28/00	Tournier et al.	424	9.3	
32.	6,051,208	04/18/00	Johnson et al.	424	9.3	
33.	6,085,743	07/11/00	Rosen et al.	128	200.24	
34.	6,123,919	09/26/00	Albert et al.	424	9.3	
35.	6,134,914	10/24/00	Eschwey et al.	62	637	
36.	6,199,385	03/13/01	Driehuys et al.			
37.	6,237,363	05/29/01	Zollinger et al.			
38.	6,269,648	08/07/01	Hasson et al.			

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes No
39.	WO 97/37239	10/97	PCT				
40.	WO98/43701	08/10/98	PCT				
41.	WO98/58272	23/12/98	PCT				
42.	WO 99/07415	18/02/99	PCT				
43.	WO 99/25243	27/05/99	PCT				
44.	WO99/35508	15/07/99	PCT				
45.	WO 99/52428	21/10/99	PCT				
46.	WO99/53332	21/10/99	PCT				
47.	WO 00/21601	20/04/00	PCT				
48.	WO 00/23797	27/04/00	PCT				
49.	WO00/40972	13/07/00	PCT				
50.	WO99/08941	25/02/99	PCT				
51.	EP 0933062A2	04/08/99	EPO				

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HartleyDATE CONSIDERED 8/14/2001

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LIST OF DOCUMENTS CITED BY APPLICANT			
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Applicants: Bastiaan Driehuys et al.			
Filing Date March 12, 2001			Group
RECEIVED SEP 28 2001 TECH CENTER 1600/2900			
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
	52.	Albert et al., "129Xe Relaxation Catalysis by Oxygen", Abstracts of the 11th Annual Meetings of the Society for Magnetic Resonance Medicine, Abstract No. 4710 (1992).	
	53.	Albert et al., "Aqueous Shift Reagents for High-resolution Cation NMR. VI," Reprint from NMR in Biomedicine 6 7-20 (1993).	
	54.	Albert et al., "Biological magnetic resonance imaging using laser-polarized 129Xe," Letters to Nature, Vol. 370, pp. 199-201 (21 July 1994).	
	55.	Albert et al., "Magnetic Resonance Imaging Using Hyperpolarized 129Xe," Medical Electronics, pp. 72-80 (December 1994).	
	56.	Albert et al., "Relaxation of 129Xe in Model Biological Systems: On Probing the Mechanism of General Anesthesia", Abstracts of the 11th Annual Meetings of the Society for Magnetic Resonance Medicine, Abstract No. 2104 (1992).	
	57.	Albert et al., "Susceptibility Changes Following Bolus Injections," Reprint from Magnetic Resonance in Medicine 29 700-708 (1993).	
	58.	Albert et al., "Development of Hyperpolarized Noble Gas MRI," Nucl. Inst. And Meth. In Phys. Res. A 402, pp. 441-453 (1998).	
	59.	Albert et al., "Measurement of 129Xe T1 in Blood to Explore the Feasibility of Hyperpolarized 129Xe MRI," Jour. Comp. Ass. Tomography, Vol. 19, No. 6 (Nov.-Dec. 1995).	
	60.	Augustine et al., "Low Field Magnetic Resonance Images of Polarized Noble Gases Obtained with a dc Quantum Interference Device," App. Phys. Ltrs., Vol. 72, No. 15, pp. 1908-1910 (April 1998).	
	61.	Bárány, M. et al., "High Resolution Proton Magnetic Resonance Spectroscopy of Human Brain and Liver," Magn. Reson. Imaging, 5:393 (1987).	
	62.	Becker et al., "Study of Mechanical Compression of Spin-Polarized 3He Gas", Nuclear Instruments and Methods In Physics Research, Vol. A 346, pp. 45-51 (1994).	
	63.	Belliveau et al., "Functional Cerebral Imaging by Susceptibility-Contrast NMR," 14 Magnetic Resonance in Medicine 14, pp. 538-546 (1990).	
	64.	Bhaskar et al., "Efficiency of Spin Exchange between Rubidium Spins and 129Xe Nuclei in a Gas", Physical Review Letters, Vol. 49, No. 1, pp. 25-28 (7/5/82).	
	65.	Bifone, et al., "NMR of laser-polarized xenon in human blood," Proc. Natl. Acad. Sci. USA, Vol. 93, pp. 12932-12936 (November 1996).	
	66.	Blumgart et al., "Studies on the Velocity of Blood Flow," J. Clin. Invest., 4:339-425 (1927).	
	67.	Borman, "Xenon Used to Expand Magnetic Imaging," Chem. & Eng. News, Vol. 72, No. 30, pp. 7-8 (7/25/94)	
	68.	Brookeman, J.R., "MRS and MRI of Hyperpolarized 129Xe: Studies in Human Volunteers," pp. 505-512, Proceedings of Educational Course at the Sixth Meeting of the International Society for Magnetic Resonance in Medicine, Sydney, Australia (April 1998).	

EXAMINER
EXAMINERHartley

DATE CONSIDERED

8/14/2001

Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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LIST OF DOCUMENTS CITED BY APPLICANT <i>(Use several sheets if necessary)</i>		SEP 28 2001 RECEIVED U.S. Patent and Trademark Office CENTER 1600 2900	
		Applicants: Bastiaan Driehuys et al.	2001
		Filing Date March 12, 2001	Group
69.	Burt et al., "Fluorinated Anesthetics as Probes of Lipophilic Environments in Tumors," <i>J. Magn. Reson.</i> , 53:163 (1983).		
70.	Burt et al., "The Fluorinated Anesthetic Halothane as a Potential NMR Biologic Probe," <i>Biochem. Biophys. Acta.</i> , 805:375 (1984).		
71.	Chawla, et al., "In Vivo Magnetic Resonance Vascular Imaging Using Laser-Polarized 3He Microbubbles," <i>Proc. Natl. Acad. Sci.</i> , Vol. 95, pp. 10832-10835 (September 1998).		
72.	Chupp et al., "Chemical Shift Imaging of Laser-Polarized ¹²⁹ Xe Magnetization in Rats <i>In Vivo</i> ," <i>European Radiology</i> , 9:B45 (1999).		
73.	de Lange et al., "Lung Airspaces: MR Imaging Evaluation with Hyperpolarized Helium-3 Gas," <i>Radiology</i> 210, 851-857(1999).		
74.	Diehl et al., "Nuclear Magnetic Relaxation of the ¹²⁹ Xe and ¹³¹ Xe Isotopes of Xenon Gas Dissolved in Isotropic and Anisotropic Liquids," <i>J. Magn. Reson.</i> , Vol. 88, pp. 660-665 (1990).		
75.	Donnelly et al., "Cystic Fibrosis: Combined Hyperpolarized 3He-enhanced and Conventional Proton MR Imaging in the Lung—Preliminary Observations," <i>Radiology</i> 212, PP. 885-889(September 1999)		
76.	Driehuys et al., "High-volume production of laser-polarized ¹²⁹ Xe", <i>Appl. Phys. Lett.</i> , Vol. 69, No. 12, pp. 1668-1670 (16 September 1996).		
77.	Driehuys et al., "Surface Relaxation Mechanisms of Laser-Polarized ¹²⁹ Xe," <i>74 Phys. Rev. Lett.</i> , No. 24, pp. 4943-4946 (12 June 1995).		
78.	Fullerton et al., Chapter 3 "Relaxation of Biological Tissues," <i>Biomedical Magnetic Resonance Imaging: Principles, Methodology, and Applications</i> , pp. 115-155, (1988).		
79.	Gao et al., "Magnetization and Diffusion Effects in NMR Imaging of Hyperpolarized Substances," <i>Mag. Reson. In Med.</i> , Vol. 37, No. 1 pp. 153-158 (Jan. 1997).		
80.	Glover et al., "Research Directions in MR Imaging ¹ , <i>Radiology</i> , Vol. 207, pp. 289-295, (1998).		
81.	Goodson et al., "In vivo NMR and MRI Using Injection Delivery of Laser-Polarized Xenon," 94 <i>Proc. Natl. Acad. Sci. USA</i> , pp. 14725-14729 (1997).		
82.	Horbar et al., "A Multicenter Randomized, Placebo-controlled Trial of Surfactant Therapy for Respiratory Distress Syndrome," 320 <i>The New England Jnl. of Med.</i> , No. 15, pp. 959-965 (April 13, 1989).		
83.	Hou, et al., "Optimization of Fast Acquisition Methods for Whole-Brain Relative Cerebral Blood Volume (rCBV) Mapping with Susceptibility Contrast Agents," <i>J. Mag. Res. Imaging</i> , Vol. 9 pp. 233-239 (1999).		
84.	Il'yasov et al., "129Xe NMR in Study of Tissues and Plants," <i>Appl. Magn. Reson.</i> Vol. 17, pp. 17-84 (1999).		
85.	Kaatz et al., "A comparison of molecular hyperpolarizabilities from gas and liquid," <i>J. Chem. Phys.</i> , Vol. 108, No. 3, pp. 849-856 (1/15/98).		
86.	Kauczor et al., "MRI Using Hyperpolarized Noble Gases," <i>Eur. Radiol.</i> , Vol. 8, No. 5, Abstract (1998).		
87.	Kendall et al., "Xenon as a Contrast Agent for Computed Tomography," <i>J. Neuroradiology</i> , Vol. 8, No. 3, pp. 3-12 (1981).		

EXAMINER
EXAMINER*1/15/98*DATE CONSIDERED *8/14/2002*

Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Instrum. 65 (6), pp. 21492150 (June 1994).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">98.</td> <td colspan="3" style="padding: 5px;">McAdams et al., "Hyperpolarized 3He-Enhanced MR Imaging of Lung Transplant Recipients: Preliminary Results," AJR 173, 955-959 (1999).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">99.</td> <td colspan="3" style="padding: 5px;">McKim et al., "Evidence of xenon transport through the gramicidin channel: a ¹²⁹ Xe-NMR study," Biochimica et Biophysica Acta 1193, pp. 186-198 (1994).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">100.</td> <td colspan="3" style="padding: 5px;">Miller et al., "Xenon NMR: Chemical shifts of a general anesthetic common solvents, proteins, and membranes", Proc. of the Nat. Acad. of Sci. (USA), Vol. 78, No. 8, pp. 4946-4949 (August 1981).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">101.</td> <td colspan="3" style="padding: 5px;">Miller, "¹²⁹Xe NMR in Polymers," Rubber Chem. And Tech., Vol. 66, pp. 455-461 (1993).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">102.</td> <td colspan="3" style="padding: 5px;">Möller et. al., "Magnetic Resonance Angiography with Hyperpolarized ¹²⁹Xe Dissolved in Lipid Emulsion," 41 Mag. Res. Med. No. 5, pp. 1058-1064 (1999).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">103.</td> <td colspan="3" style="padding: 5px;">Moschos, A. et al., "Communications Nuclear Magnetic Relaxation of Xenon-129 Dissolved in Organic Solvents," J. Mag. Reson., Vol. 95, pp. 603-606 (1991).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">104.</td> <td colspan="3" style="padding: 5px;">Moseler et al, "Formation, Stability, and Breakup of Nanojets, Science," Vol. 289, No. 5482, pp. 1165-1169 (18 August 2000).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">105.</td> <td colspan="3" style="padding: 5px;">Mugler, III et al. "Gradient-Echo MR Imaging, RSNA Categorical Course in Physics: The Basic Physics of MR Imaging", U. of VA Health Sci. Ctr., pp. 71-88 (1997).</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">106.</td> <td colspan="3" style="padding: 5px;">Mugler, III et al., "MR Imaging and Spectroscopy Using Hyperpolarized ¹²⁹Xe Gas: Preliminary Human Results," 37 Magn. Reson. In Med., Vol. 37, No. 6, pp. 809-815 (1997).</td> </tr> </table>				O I P E P A T E N T & T R A D E M A R K O F F I C E S E P 2 7 2 0 0 1 S C 109		T E C C E N T E R 1600/2000 S E P 2 8 2 0 0 1		Kerns et al., "Carbon Dioxide Digital Subtraction Angiography: Expanding Applications and Technical Evolution," 164 Am. Jnl. Roentgen., pp. 735-741 (1995).				89.	Knudsen et al., "Blood-brain barrier permeability measurements by double-indicator method using intravenous injection," Am. J. Physiol. 266 (Heart Circ. Physiolo. 35) pp. H987-H999 (1994).			90.	Lassen, "Cerebral Transit of an Intravascular Tracer May Allow Measurement of Regional Blood Volume But Not Regional Blood Flow," 4 J. Cereb. Blood Flow and Metab. Pp. 633-634 (1984).			91.	Le Bihan, "Magnetic Resonance Imaging of Perfusion*," Mag. Reson. In Med., Vol. 14, pp. 283-292 (1990).			92.	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Moseler et al, "Formation, Stability, and Breakup of Nanojets, Science," Vol. 289, No. 5482, pp. 1165-1169 (18 August 2000).			105.	Mugler, III et al. "Gradient-Echo MR Imaging, RSNA Categorical Course in Physics: The Basic Physics of MR Imaging", U. of VA Health Sci. Ctr., pp. 71-88 (1997).			106.	Mugler, III et al., "MR Imaging and Spectroscopy Using Hyperpolarized ¹²⁹ Xe Gas: Preliminary Human Results," 37 Magn. Reson. In Med., Vol. 37, No. 6, pp. 809-815 (1997).		
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95.	Mansfeld et al., "The use of ¹²⁹ Xe NMR exchange spectroscopy for probing the microstructure of porous materials," Chem. Phys. Ltrs., Vol. 213, No. 1, 2, pp. 153-157 (1 October 1993).																																																																																		
96.	Martin, "The Pharmacokinetics of Hyperpolarized Xenon: Implications for Cerebral MRI," Jour. Magn. Reson. Imag., Vol. 7, No. 5, pp. 848-854 (Sep.-Oct. 1997).																																																																																		
97.	Mazitov et al. "A simple method for producing liquid or solid NMR samples containing dissolved gases at elevated pressures," Rev. Sci. Instrum. 65 (6), pp. 21492150 (June 1994).																																																																																		
98.	McAdams et al., "Hyperpolarized 3He-Enhanced MR Imaging of Lung Transplant Recipients: Preliminary Results," AJR 173, 955-959 (1999).																																																																																		
99.	McKim et al., "Evidence of xenon transport through the gramicidin channel: a ¹²⁹ Xe-NMR study," Biochimica et Biophysica Acta 1193, pp. 186-198 (1994).																																																																																		
100.	Miller et al., "Xenon NMR: Chemical shifts of a general anesthetic common solvents, proteins, and membranes", Proc. of the Nat. Acad. of Sci. (USA), Vol. 78, No. 8, pp. 4946-4949 (August 1981).																																																																																		
101.	Miller, " ¹²⁹ Xe NMR in Polymers," Rubber Chem. And Tech., Vol. 66, pp. 455-461 (1993).																																																																																		
102.	Möller et. al., "Magnetic Resonance Angiography with Hyperpolarized ¹²⁹ Xe Dissolved in Lipid Emulsion," 41 Mag. Res. Med. No. 5, pp. 1058-1064 (1999).																																																																																		
103.	Moschos, A. et al., "Communications Nuclear Magnetic Relaxation of Xenon-129 Dissolved in Organic Solvents," J. Mag. Reson., Vol. 95, pp. 603-606 (1991).																																																																																		
104.	Moseler et al, "Formation, Stability, and Breakup of Nanojets, Science," Vol. 289, No. 5482, pp. 1165-1169 (18 August 2000).																																																																																		
105.	Mugler, III et al. "Gradient-Echo MR Imaging, RSNA Categorical Course in Physics: The Basic Physics of MR Imaging", U. of VA Health Sci. Ctr., pp. 71-88 (1997).																																																																																		
106.	Mugler, III et al., "MR Imaging and Spectroscopy Using Hyperpolarized ¹²⁹ Xe Gas: Preliminary Human Results," 37 Magn. Reson. In Med., Vol. 37, No. 6, pp. 809-815 (1997).																																																																																		

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DATE CONSIDERED 4/14/2002

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FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office		Attorney Docket Number 5770-21	Serial No. 09/804,365
LIST OF DOCUMENTS CITED BY APPLICANT			
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<p style="text-align: right;">O I P E SEP 27 2001 PATENT & TRADEMARK OFFICE JC 109</p>			
Applicants: Bastiaan Driehuys et al.			
Filing Date March 12, 2001			Group
107.	Navon et al., "Enhancement of Solution NMR and MRI with Laser-Polarized Xenon," <i>Science</i> , Vol. 271, pp. 1848-1851 (March 1996).		
108.	Pasquier et al., " ¹²⁹ Xe NMR as a Probe of the Dynamics of Gas Confined in Porous Vycor," <i>Mag. Reson. Imag.</i> , Vol. 14, No. 7/8, pp. 971-973 (1996).		
109.	Patyal, "Longitudinal Relaxation and Diffusion Measurements Using Magnetic Resonance Signals from Laser-Hyperpolarized ¹²⁹ Xe Nuclei," <i>J. Magn. Reson.</i> , Vol. 126, No. 1, pp. 58-65, May 1997.		
110.	Peled et al., "Determinants of Tissue Delivery for ¹²⁹ Xe Magnetic Resonance in Humans," <i>Mag. Res. Med.</i> , Vol. 36, pp. 340-343 (1996).		
111.	Pfeffer et al., " ¹²⁹ Xe gas NMR spectroscopy and imaging with a whole-body imager," <i>J. Mag. Reson.</i> , Ser. A., Vol. 108, No. 1, pp. 106-109 (May 1994).		
112.	Pietraß et al., "Optically Polarized ¹²⁹ Xe in NMR Spectroscopy," <i>Advanced Materials</i> , pp. 826-838 (1995)		
113.	Pollack et al., "Solubility of xenon in liquid n-alkanes: Temperature dependence and thermodynamic functions," <i>J. Chem. Phys.</i> , Vol. 7, No. 6, pp. 3221-3229 (15 September 1982).		
114.	Pollack et al., "Solubility of xenon in liquid n-alkanois: Thermodynamic functions in simple polar liquids," <i>J. Chem. Phys.</i> , 81 (7) pp. 3239-3246 (1 October 1984).		
115.	Presson et al., "Fate of Air Emboli in the Pulmonary Circulation," 67 <i>J. Appl. Physiol.</i> 5, pp. 1898-1902 (1989).		
116.	Raftery, et al., "High-Field NMR of Adsorbed Xenon Polarized by Laser Pumping," <i>Phys. Rev. Lett.</i> , Vol. 66, No. 5, pp. 584-587 (4 February 1991).		
117.	Raftery, et al., "NMR of optically pumped xenon thin films," <i>Chem. Phys. Lett.</i> , Vol. 191, No. 5, pp. 385-390 (4/8/92).		
118.	Ratanakorn et al., "A New Dynamic Method for Detection of Internal Jugular Valve Incompetence Using Air Contrast Ultrasonography," <i>Jn. of Neuroimaging</i> , Vol. 9, No. 1, pp. 10-14 (January 1999).		
119.	Rosen et al., "Perfusion Imaging by Nuclear Magnetic Resonance," <i>Mag. Reson. Quart.</i> , Vol. 5, No. 4, pp. 263-281 (1989).		
120.	Rosen et al., "Polarized ¹²⁹ Xe optical pumping/spin exchange and delivery system for magnetic resonance spectroscopy and imaging studies," <i>Rev. Sci. Instrum.</i> , Vol. 70, No. 2, pp. 1546-1552 (February 1999).		
121.	Ruppert et al., "NMR of hyperpolarized ¹²⁹ Xe in the canine chest: spectral dynamics during a breath-hold," <i>NMR Biomed.</i> , Vol. 13, pp. 220-228 (2000).		
122.	Ruth et al., "Production of Nitrogen-Free, Hyperpolarized ¹²⁹ Xe Gas," <i>Appl. Phys. B</i> , Vol. 68, pp. 93-97 (1999).		
123.	Sauer et al., "Laser-Polarized Liquid Xenon," <i>Chem. Phys. Lett.</i> , Vol. 277, pp. 153-158 (3 October 1997).		
124.	Schad et al., "Hyperpolarized Gases -- A New Type of MR Contrast Agents?," <i>Acta Radiologica</i> 38, Suppl. 412, pp. 43-46 (1997).		

EXAMINER

HartleyDATE CONSIDERED 8/14/2002

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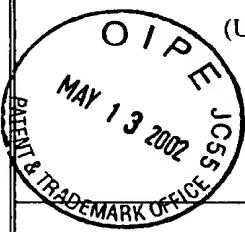
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U. S. PATENT DOCUMENTS

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	1.	5,438,982	08/08/95	MacIntyre	128	207.14	
	2.	5,788,665	08/04/98	Sekins	604	19	
	3.	5,968,017	10/19/99	Lampropoulos et al.	604	183	
	4.	6,370,415	04/09/02	Weiler et al.	600	410	

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation Yes No
	5.	WO 99/66254	23/12/99	PCT	F17C	1/00	X
	6.	WO 99/66255	23/12/99	PCT	F17C	1/00	X
	7.	WO 01/74246	11/10/01	PCT	A61B	5/055	X
	8.	WO 02/04709	17/01/02	PCT	C25B	5/00	X
	9.	0 446 715 A2	18/09/91	Europe	A61B	6/00	X
	10.	0 547 463 A1	23/06/93	Europe	A61M	25/00	X

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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